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What is This?

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Abstract

This article introduces a tool to help students learn to better manage their energy. The tool asks students to assess their energy levels for each waking hour over at least 2 days in order to identify patterns of activities associated with high energy and with depleted energy. The article describes how to use the tool in the classroom by articulating the learning objectives, providing background research on energy regulation, and debriefing student reactions. The findings from two classes of students suggest that the tool is effective in achieving its learning goals and has a longer term impact on student behavior. The article closes by discussing the challenges of energy management for students.

Keywords

energy management, stress, recovery, self-regulation, sleep, exercise

We cannot be happy if we expect to live all the time at the highest peak of intensity. Happiness is not a matter of intensity, but of balance and order and rhythm and harmony.

—Thomas Merton

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More than 40% of Americans report feeling overworked, pressured, and squeezed to the point of anxiety, depression, and disease (Benson, 2005). Benson (2005, p. 1) reports that the problem is only getting worse “thanks to intensified competition, rapid market changes, and an unending stream of terrible news about natural disasters, terrorism, and the state of the economy.” Like a battery, human energy can be depleted over time if not regularly recharged (Hobfoll, 1989; Hobfoll & Shirom, 2001). Loehr and Schwartz (2003) even call the depletion of human energy a type of energy crisis that must not be ignored. We need to help students (as future employees and leaders) learn to recharge themselves by recognizing the costs of energy-depleting behaviors and then taking responsibility for changing them to be energy producing or conserving, regardless of the environment they are embedded in (Schwartz & McCarthy, 2007). We need to create more of a culture of movement and recovery (Wamp, 2009). To this end, we introduce a tool that can be used to help students manage their energy in order to be healthy and productive in their personal and professional lives.

In this article, we discuss the importance of energy and the need for students to create and sustain energy in their everyday lives. We draw on the literature on recovery from work demands to create a tool that students can use to manage energy. This tool helps the students “take their pulse” to audit their energy levels during the day. Looking at their high and low energy points, students then select from a range of interventions drawn from energy-related research to learn how to better manage their energy. We also include a description of how to introduce and run the tool in class and discuss student reactions and learning.

How Energy Is Often Depleted in the Life of Students

There are many factors that contribute to energy depletion in students, each of which makes it difficult for students to focus on their academics and personal development. First, long hours of schoolwork can significantly decrease the amount of time available for students to unwind and recover. Second, many students are electronically “tethered” to a smart phone or laptop and may feel obligated to respond to calls, texts, and e-mails from classmates and professors. Third, the school experience is often a stressful one, because of anxiety about grades, projects, majors, and careers. The resulting worries may contribute to sleep disruption, leading to sleep deprivation and higher levels of fatigue (Scott & Judge, 2006; Sonnentag, Binnewies, & Mojza, 2008).

Factors outside the school environment can also cause stress and deplete human energy. Many students work part-time, or even full-time while taking

a full schedule of courses. Frequently, students report roommate conflicts or romantic breakups, all at a time when young people are learning to be more independent from their families and are often far away from their homes and familiar support networks. Being “on their own” for the first time can be overwhelming for many students. David Kahn, Vice Chair for Clinical Affairs for the Department of Psychiatry at New York–Presbyterian Hospital/Columbia University Medical Center, describes, “College can be a difficult transition, with new independence, responsibilities and expectations arriving just as a student’s previous support system of family and friends are often not readily available” (as cited in Derocher, 2010, p. 1). At an extreme, in 2010, Cornell University reported six suicides in 6 months as students struggled amid the crushing feelings of pressure (Epstein, 2010; Gabriel, 2010). While students face many challenges that may deplete the energy devoted to coursework, personal development, and relationships, the research described below may offer some insights to help students combat these challenges.

Literature Review on Recovery From Job Demands

Hobfoll’s (1989) conservation of resources theory is a comprehensive theory of stress based on the central tenet that people strive to obtain, build, and protect that which they value (e.g., resources). He suggests that psychological stress occurs when these resources are lost, threatened with loss, or if individuals fail to replenish resources after their depletion. Human energy is one resource—and an important one given that it helps people regulate their behaviors and emotions to meet performance expectations and organizational/group norms. Energetic resources are limited and depleted over time because of environmental demands. This depletion increases stress. For students, self-regulatory demands such as making the choice to do homework instead of joining friends to go out can contribute to depleting student energy. Thus, students must find ways to replenish their energy on a regular basis.

Conservation of resources theory has spawned empirical research on engagement (often manifested as vigor) and recovery in the workplace (Sonentag & Fritz, 2007). Job demands and job resources have been examined empirically as key antecedents of vigor at work. Job demands such as workload have been found to deplete vigor, whereas job resources such as supervisory and coworker support (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), social capital (Carmeli, Ben-Hador, Waldman, & Rupp, 2009), and performance feedback (Schaufeli & Bakker, 2004) have been found to enhance vigor.

Although not specific to students, research on recovery from work demands might offer some ideas on how students can manage their energy. This research has found that employees can use their time off work—evenings (Sonnentag et al., 2008), weekends (Fritz & Sonnentag, 2005), and vacations¹ (Westman & Eden, 1997)—to recharge their energy (Eden, 2001; Fritz, Sonnentag, Spector, & McInroe, 2010; Sonnentag et al., 2008). In particular, experiences such as relaxation, mastery experiences, a sense of control, and psychological detachment from work have been found to be particularly beneficial for recovery from work demands (Fritz & Sonnentag, 2005, 2006; Sonnentag & Fritz, 2007). With the need for recovery a key issue for employees, many companies offer some kind of workplace wellness programs to aid in recovery practices during breaks from work or before/after work (Wells, 2010). These wellness programs can include help with diet, exercise, smoking cessation, and stress management (often even offering incentives to participate or disincentives for those who do not participate by way of higher insurance premiums).

Despite the significant progress made in understanding what replenishes energy during off-work time, research indicates that the beneficial effects of recovery during nonwork time fade over time. For example, Westman and Eden (1997) found that the positive “vacation effects” tend to fade out, and stress levels and burnout return to their prevacation levels within a few weeks after vacation. The same may be true for recovery on weekends (vitality is sapped by the end of the workweek) or during evenings (higher fatigue by the end of the workday). This finding speaks directly to Pfeffer’s (2010) concerns regarding the lack of understanding about human sustainability: If students cannot sustain their energy over longer periods of time, faculty cannot expect them to achieve consistently high-level performance. Conversely, if students can learn about how to regulate their energy while still in school, their transition to the intensity of their work life is likely to be smoother. Thus, in this article, we draw on the recovery from work demands literature to create a tool that students can use to create and sustain energy.

The Energy Audit: A Tool for Taking One’s Energy Pulse

Loehr and Schwartz (2001) suggest that

the real enemy of high performance is not stress, which paradoxical as it may seem, is actually the stimulus for growth. Rather, the problem

is the absence of disciplined, intermittent recovery from work demands. Chronic stress without recovery depletes energy reserves, leads to burnout and breakdown, and ultimately undermines performance. (p. 122)

Loehr and Schwartz (2001, p. 123) identify four key levers for energy management:

- Physical: builds endurance and fitness
- Mental: creates focus and attention
- Emotional: enables excitement and connection
- Spiritual: provides centeredness and presence

These four key levers for energy management can be viewed as a kind of pyramid where physical energy forms the foundation for mental energy, which forms the foundation for emotional energy, which in turn is the foundation for spiritual energy (see Figure 1—a slide of this figure is also available online at <http://jme.sagepub.com/supplemental>). The energy levers are interrelated in that creating more energy at the bottom levers of the pyramid can enhance energy at the higher levels of the pyramid. The best long-term performers tap into positive energy at all levels of the pyramid (Loehr & Schwartz, 2001). We discuss the four levers in more detail in the next section.

Using the Energy Audit in Class

The exercise has two learning goals. First, students will learn about the forces that not only deplete but also create and sustain human energy. Second, students will assess their energy trajectory so they can see how their



Figure 1. What gives you energy?

energy may ebb and flow over the course of a day to improve their energy regulation.

We report here on our experience with the energy audit in two courses, one in Fall 2009 (45 students) and the other in Fall 2010 (68 students). Both courses were undergraduate electives in change management. Most students were from the business school but others were majoring in organizational studies, psychology, economics, and public policy. These were full-time students, many with a rich array of part-time jobs, entrepreneurial endeavors, and internships. Most also had significant leadership experiences at the university or in the community.

The energy audit can be conducted over portions of three class periods. Before the first class period, students take their energy pulse. In the second class, we debrief their energy pulse and then ask them to commit to one or two interventions for each day in the coming week. In the third class, we debrief to learn about their experiences with the interventions. We assign the *Harvard Business Review* article titled, "Manage Your Energy, Not Your Time" (Schwartz & McCarthy, 2007) as background reading in a course pack of course materials.

Partial Class Period 1: Energy Pulse

This first segment requires handing out and explaining the exercise (10 minutes). We introduce the exercise very briefly by explaining to the students that in the next class period, we will be talking about energy management. We explain that this topic is important because we need energy to focus, concentrate, take initiative, and achieve our goals. We ask students to complete the energy audit (see Appendix A—this appendix is also available online at <http://jme.sagepub.com/supplemental>) for at least two relatively normal weekdays during the week to come, and we encourage them to do more for maximum insight.

The prework for the energy audit has three key steps. In the first step, we ask students to track their energy level (on a scale from 1 [*very low*] to 10 [*very high*] as well as what they were doing at that time for each waking hour of the day. We suggest that they send e-mail reminders or set a cell phone alarm to remind them to respond each hour. If they miss a time, they are told to respond as soon as they remember. This method is comparable to the day reconstruction method of recall (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004), which has been shown to be a valid method to assess how people spend their time and how they experience the various activities and settings of their lives. Research indicates that its accuracy is similar to that found in an experience sampling method using beepers or smart phones (Kahneman et al., 2004).

In the second step, we ask students to plot their energy on the graph in Appendix A so they can see the ebbs and flows of their energy over the course of the 2 days.

Finally, in the third step, we ask them to answer three sets of questions:

- When was your energy the highest? What were you doing at those times?
- When was your energy the lowest? What were you doing at those times?
- What new insights do you have about how to better manage your energy?

These questions are primarily to help them reflect on the patterns they see in their data. They can choose what, if anything, to disclose in the small group discussions in the next class period. We then ask them to bring their energy graphs and responses to class to use in the discussion.

Whole Class Period 2: Understanding Your Energy Pulse

For this second class session, we normally use the whole 80-minute class period. On this day, we ask students to come up to the whiteboards around the classroom and draw one of their energy trajectories. We ask students to express any patterns that they see as they look across the trajectories. Students often note that their level of energy is typically lowest at the beginning of the day (particularly when they are sleep deprived) and in the late afternoon. Some mention how important it is for their energy to also be low at the end of the day right before bed (and that when this is not the case, how difficult it can be to fall asleep).

After discussing the energy trajectories as a class, we have students discuss in small groups (comprising 5-6 students) the following questions:

- What surprised you?
- What patterns do you observe about what creates low energy and what creates high levels of energy?
- What new insights can you glean about how to better self-regulate your energy?

Students have been working in these small groups for several weeks, so they have established a baseline of trust with each other. Even so, they can choose how much to self-disclose.

Table 1. Prototypical Student Responses to Debrief Questions

Debrief Question	Prototypical Responses
What surprised you?	Students expressed surprise with how low their energy is throughout the day and especially in the afternoon. Some mentioned how much more they could do if only their energy was higher. A few noted how just paying attention to their energy level caused them to change their behavior to improve their energy.
What patterns do you observe about what creates low energy and what creates high levels of energy?	Students remarked how energized they often feel when they are exercising (or just after exercising) and when they are spending time with friends or in social situations. Some noted the energy that comes when they feel challenged or when they are intrinsically interested in what they are doing. They tended to report feeling de-energized while studying, at class, or when watching TV.
What new insights can you glean about how to better self-regulate your energy?	Students wanted to do a better job of regulating energy. Some noted that they will schedule their most important work at the time of day they have the most energy. In addition, some noticed a difference between the calm/focused energy that is necessary for school work and the more activated energy that comes from exercise or social activity.

We then debrief as a class on the three questions above (see Table 1 for prototypical responses from students) and subsequently turn to a short lecture of the four different levers for energy management (including sharing the evidence for why each intervention can generate energy). In preparation for teaching this material, we identified two or three small interventions for each energy lever. We sought low-key interventions that would not be overwhelming to college students and that were also backed up by research demonstrating their efficacy. We provide the basics for these interventions in a mini-lecture that we outline in Appendix B.

Before the end of the class, we ask students to “reflect on which domain of interventions is most compelling to them.” We then ask them to “commit to trying one or two interventions over the next week. What can you do that is new/outside of your regular routine?” If there is enough time remaining in

class, we have them return to their small groups to share their proposed intervention(s) and coach or offer feedback to each other about how to increase the probability of success with their intervention(s).

We have found that students choose a wide variety of interventions (see Table 2 from one class of 68 students). In this class of students, the most popular interventions chosen were nutrition related, followed by sleep, and exercise. Other popular choices included taking more breaks, reducing multitasking, and showing gratitude. Students often mentioned how many of their normal practices contribute to their erratic energy patterns. They noted that the kinds of breaks they take are not necessarily best for recovery, such as drinking alcohol or eating sugary (such as donuts or cookies) and greasy foods (such as French fries or pizza), and they confided about their poor sleep practices and the need for naps to get them through the day.

We also noted various challenges in the implementation of the energy audit. Some students were not able to complete the energy audit in real time, so they completed it in the time period right before class. Thus, it was not clear how closely their trajectory represented their experienced energy patterns. In addition, we suspected that some students felt they had to provide socially desirable answers. For example, it may have been uncomfortable to report on the audit that for several hours on a Tuesday night the student was at a bar drinking or that the student did not wake up until 1:00 p.m. in the afternoon on a Thursday.

Partial Class Period 3: Wrap-Up and Key Insights

One week later, we take 15 to 20 minutes at the beginning of class to ask the students to share their experiences with their interventions. They share as a class not only what worked but also what did not work, and we explore why. If the instructor has more time, he or she could instead break the class into small groups to share their experiences and to coach each other to overcome difficulties.

Recent research suggests that it takes on average about 66 days to form a new habit (Lally, van Jaarsveld, Potts, & Wardle, 2010). Our students often reported on how difficult it was to change habits that had become ingrained over time or initiate a new habit in their busy lives. Successful strategies students used for developing a new habit included scheduling the intervention into their day (e.g., by listing it in an outlook calendar) or having a friend or roommate hold them accountable (ideally by doing the intervention alongside them). The goal-setting literature also suggests that students will be more successful if they set specific, public, and challenging goals for executing

Table 2. Frequency of Selected Energy Interventions

Energy Interventions	Responses	Student Examples
Physical		
Sleep	14	Getting in a regular sleep/wake cycle Regulate sleep patterns—8 hrs of sleep Go to sleep and wake up at the same time each day I tried sleeping at least 8 hours a day
Nutrition	16	I will add fruit and water to my usual coffee and pastry diet I will try to eat breakfast every morning By eating more consistent smaller meals, I will avoid the post meal energy crash that generally follows gorging Bringing mixed nuts and dried fruits to class to boost my energy
Exercise	14	Instead of relying primarily on coffee to keep me awake, I went for a run Exercise: Monday, Thursday, Friday (at least)
Mental		
Stop multitasking	13	To not use Facebook while working or studying When I am doing work in the library, I will stop multitasking Specifically, I will turn my cell phone on silent and avoid Facebooking and instant messaging To try to stop multitasking (have mail open while I'm doing homework)
Take a break	13	Take break while studying and doing homework I will take short breaks while working or studying Take a study break every 2 hours
Emotional		
Be positive	0	
Help someone/ do a random act of kindness	5	I surprised my ex-boss with a pint of his favorite ice cream, a detail I remembered from a random conversation last year This morning I made a little sign to put on the door of my house that says "Have a great day—SMILE" so we see the sign every time we leave the house. I also wrote "You are beautiful!" on our bathroom mirror

(continued)

Table 2. (continued)

Energy Interventions	Responses	Student Examples
		I cooked for myself and my roommate several times throughout the week even though I was extremely busy this week. I also got her a cup of coffee on my way to study with her because I knew we would both be up for a while Helped girlfriend with interview prep
Spiritual		
Show gratitude	12	I am going to try and say at least 3 things I am grateful for I bought the gratitude journal app to keep track of 3-5 things I'm grateful for The gratitude journal is my definite selection. I did today's 3 items I'm grateful for I will begin to keep a gratitude journal that I will write in each night Gratitude journal . . . letter @ end of week
Create meaning	2	I create meaning by giving myself feedback everyday and meditating on my life goals Today after dinner I will sit down for 20 min to think and write about my life goals. One page should include short-, middle-, and long-term goals for the next 15 years, a reason for every goal and why I decide every day to get out of bed instead of sleeping in

their energy intervention (Austin & Vancouver, 1996). By being intentionally practiced and precisely scheduled, the interventions are more likely to become rituals that are unconscious and automatic in the short term (Schwartz & McCarthy, 2007).

Some students discussed adapting their intervention(s) to fit better with their interests and needs. For example, one student described signing up for a meditation class twice a week. Another described returning to her interest in dance because she found it so restorative. Students also discussed the insight that their former energy enhancement strategies, such as sugary snacks or energy drinks (e.g., Red Bull), or relaxation strategies (e.g., TV or video games), were short-term fixes that did not necessarily create sustainable energy for high performance.

As a class, we also agreed to help each other to better manage our energy in class. We made time for a quick stretch break halfway through class for much of the remainder of the term. We also talked about the importance of putting these energy management strategies into place while in college to create new, healthy habits before leaving school for the real world.

On a personal note, as instructors, we also found that these were important reminders for us about managing our own energy so that we would not be burned out by the end of the term. We found that we could take our own pulse and choose an energy intervention alongside the students. In this way, we were walking in their shoes and could share our own pitfalls and successes as well. For example, one of us committed to train for a half marathon as part of her intervention. She finished the race while the class was still in progress, so she was able to share her success with the class.

Does the Energy Intervention Achieve its Learning Goals and Have Some Staying Power?

We followed up with both classes of students (we used the exercise with 45 students in the first year and 68 students in the second year) to better understand the longer term effects of the energy audit. Before conducting the energy audit with the second class of students, we surveyed the first class of students who had completed the audit 1 year earlier and asked them about their experience with their energy regulation since the intervention. For the second class of students, we followed up approximately 6 months after the audit to assess the audit's effects in a shorter time interval. We found similar results at the 6-month and 1-year intervals.

In both groups, the students reported achieving the stated learning goals of the exercise. The first stated learning goal was that students would learn about the forces that not only deplete but also create and sustain human energy. Our follow-up with the students corroborated that 77% of respondents reported better understanding of the factors that deplete human energy while 62% reported they better understood the factors that sustain human energy. The second learning goal stated that students would learn how their energy ebbed and flowed over the course of a day to improve their energy regulation. In our follow-up, 69% of respondents reported that they gleaned a sense of the patterns in their energy over the course of the day. Finally, 69% reported a clearer understanding of specific strategies that they could use to improve their energy.

The responses also suggest some degree of "stickiness." Looking across the two sets of responses, only 22% of respondents said that the energy

intervention failed to take hold. Importantly, more than one third reported the exercise to be transformational to their energy management. As an example, one student mentioned taking energy regulation into consideration when he rejected a job offer that would deplete his energy in significant ways. About 40% reported that their interventions persisted at least through the semester, if not longer or in an abbreviated form.

Qualitatively, many reported that the intervention changed them in fundamental ways. Some reported better sleep habits. For example, “. . . what really stuck was sleeping more. I get an average of 7-8 hours of sleep per night compared to my college days of 5-6 hours, and I really feel the difference.” Another said, “I learned that I really need to get enough sleep. I learned that napping is good.”

Others reported improvements in their diet. For example, “I have limited my sugary sodas to one per week.” Another said, “I am eating breakfast. I also try to eat more fruits and not sugary food.” Finally, many students mentioned trying to drink more water.

Many also reported new exercise regimes. For example, “I started running. . . . I trained and completed my first half marathon.” Or another, “I’m running a 10K because I got so into it.” Although not exercise per se, another student said, “I get up every couple hours from sitting down to renew my energy.”

However, students also reported difficulty in turning the interventions they chose into habits. Some reported being in career transitions that complicated being able to follow through on their energy management. For example,

the reason it hasn’t stuck with me fully is because I just recently moved to San Francisco, got a new job and a new lifestyle. Once I find a more permanent home and I get a better handle on my job, I believe I will be able to stick with it once again.

Others mentioned the challenges of time. For example, “[I am] so busy with work or school.” Or “I did not keep up with sleeping 8 hours a day because the workload I had at the time would not permit me to do so.” Others mentioned simply that it would fall off their radar screen—“I would forget.”

The students also recommended some things to improve the staying power of the exercise. First, one student mentioned that it would help to “work with partners” and hold each other accountable for implementing the interventions; the students could learn to be coaches to each other. Second, it would

have been helpful to have regular follow-ups with the students to keep energy regulation on their radar screen. For example, students could repeat the energy audit 1 month later to assess progress over time. Another suggested that we continue checking up on students' energy throughout the semester. Third, the students could track the implementation of their intervention over time. For example, they could create a table and mark off each night that they completed their gratitude journal. Like the company wellness programs, as faculty, we could think creatively about incentives for students to stick with their interventions over time. The implication is that the energy audit would best be introduced toward the beginning of a course so that it can be followed up on to create a habit over the course of a semester.

The energy audit has also been used in a workshop for managers and consultants that was conducted by the first author. The discussion in the workshop was powerful as people shared their struggles to maintain their energy amid longer work hours. Although no formal follow-up was conducted, many participants took the initiative to report that they found the energy audit beneficial. For example, one sent this e-mail describing a practice to help her reduce multitasking:

Now, when I get home, I leave my cell in my bedroom while I eat dinner and try not to answer emails incessantly after work. I made this change during the audit and during my intervention. The word "tether" perfectly described the nature of the person-cell phone connection (a little too close!). This 1 hour away from my phone is KEY to the unwinding strategy of meditating and reflecting on my day, rather than keeping it going.

A coach in the workshop followed up to describe how some interventions worked whereas others had unintended consequences:

I implemented exercise, breaks, meditation, and reading as my interventions for one week. The exercise did not help me because I would work out after work and the energy boost from working out made me unable to fall asleep at a normal time. The reading and meditating after work was a GREAT replacement for the glass of vino! And BREAKS during the day (walking outside even if I have skipped lunch) help me keep my momentum going without crashing, as I did, around mid-afternoon time. Thanks to the audit, I will most definitely continue to take breaks and meditate. I may attempt working out before work but, not likely!

As an unobtrusive indicator of the resonance of the audience, I (the first author) was invited to share the energy audit in a keynote speech at a work–balance conference for 300 employees.

Where Would the Energy Audit Fit in Your Curriculum?

We have developed this audit for use in an undergraduate course on “managing change” in a module on personal change. We explain that leading change can be difficult and requires a lot of energy because people often resist change. In addition, change entails uncertainty and obstacles. Leading change, especially large-scale change, takes time—often involving long hours with many demands. The result is that one may begin to feel burned out if one does not regulate one’s energy. In this module, in addition to the energy audit, students learn about

- self-awareness with the Myers–Briggs assessment
- how to become more self-empowered
- their reflected best self (<http://www.bus.umich.edu/positive/pos-teaching-and-learning/reflectedbestselfexercise.htm>)
- how to craft their job/life (<http://www.bus.umich.edu/Positive/CPOS/Teaching/job-crafting.html>)

This is a full-semester course and the personal change module comes in the first half of the course, though not at the very beginning. We feel it is important for students to know each other a bit and to trust the professor because the class discussion can involve some self-disclosure on their part, if they choose.

The energy audit could also be integrated into a core Organizational Behavior or Management course—or even a more specialized course in Leadership Development. Most students find it helpful as a mechanism for developing their full potential as leaders, managers, or in their current role as students. We suggest it can be another mechanism for students’ reflective practice (Pavlovich, Collins, & Jones, 2007).

We recommend that before using the energy audit in the classroom, faculty should complete the energy audit themselves and try out each of the interventions to see what works best for them. It will help them understand the challenges involved in making these kinds of personal changes in their lives. In addition, they will have the opportunity to experience the benefits of better energy regulation. We also recommend several other resources for background reading that are included in Appendix C.

Future Areas for Development of the Energy Audit

A key next step is to track students over time to assess the extent to which they create new habits relating to energy management. Ideally, students would be followed up with at various time segments (such as 2 weeks, 1 month, and 1 semester) to see how “sticky” the interventions are. It would be best that this be done by someone different from the instructors and that responses be anonymous so that respondent bias is minimized.

It would also be valuable to compare the “diary” method used here, where respondents are asked to respond each hour on the hour with a method more in line with experience sampling. An experience sampling method would “ping” students for responses at various and unpredictable times during the day to capture their energy assessment at more random time intervals (Reid et al., 2009). However, this method may be more complicated in that (a) students may not be able to receive a “ping” at certain times of the day because of being in a class and (b) students keep rather unpredictable hours with some audits going into the wee hours of the morning when a “ping” from a teacher would be inappropriate.

It is also possible that the energy audit is prone to social desirability bias. Students may be hesitant to truly report their activities because they may be embarrassed to share something private or even inappropriate. Thus, it is important to create a safe environment where students know they are not being judged and where they can keep their audits private if that is more comfortable for them.

Conclusion

Over the past 20 years, public and business interest in sustainability has dramatically increased; however, much of the focus has been on its environmental and economic dimensions, and much less on the human dimension (Pfeffer, 2010). Although reducing waste and increasing focus on the natural environment are critical features of sustainability, researchers must also develop a better understanding of the human dimension of sustainability, particularly in terms of energy and health. This article further develops the idea of human sustainability by introducing a tool that can be used to help students manage their energy in order to be healthy and productive in their personal and professional lives. The more we can help students develop healthy habits around energy while still in school, the better we can help them sustain their energy for high performance for a lifetime.

Appendix B (continued)

Nutrition. Nutrition experts suggest that for maximum energy throughout the day individuals should eat breakfast and 5 to 6 smaller meals to speed up their metabolism (Loehr & Schwartz, 2001). They also suggest that we eat a balanced diet (with fat, protein, and carbohydrates from all the food groups) and reduce empty calories such as sugary snacks and soda (Thayer, 2003). Individuals should moderate caffeine and sip water throughout the day as well (Batmanghelidj, 2008).

Exercise. Exercise physiologists suggest the need to be active (Ratey & Hagermand, 2008). Not only will this reduce the likelihood of obesity and its associated health problems but exercise can also improve concentration and cognitive performance (Trost, 2007). Loehr and Schwartz (2001) suggest these specific recommendations for energy management: Exercise to get the heart beating intensely 3 to 4 times a week for 20 to 30 minutes, engage in strength training at least once a week, take the stairs, and get outside and go for a walk.

Managing Mental Energy. Mental energy is about focus and concentration. We recommend two strategies for focusing mental energy.

Stop multitasking. Multitasking results in decreased mental speed, more errors, and even increased risks of health problems (Rubinstein, Meyer, & Evans, 2001). For important tasks that require full attention, avoid distractions by finding a quiet space to work. In addition, experts recommend turning off the phone and disengaging from e-mail when trying to focus attention (Schwartz, 2010).

Take a break. Whereas smoking and coffee breaks have been found to be detrimental to health, rest breaks and physical activity breaks have been found to be beneficial (Dababneh, Swanson, & Shell, 2001; Taylor, 2005; Tucker, Folkard, & Macdonald, 2003). For example, frequent 10-minute breaks which involve simple flexibility and strength exercise routines increase mood and decreased fatigue, anger, and depression (Pronk, Crouse, & Rohack, 1995). The most powerful restoration effects come from taking a break from individual tasks by switching to a different task or doing something you enjoy (Trougakos, Beal, Green, & Weiss, 2008). Schwartz (2010)

(continued)

Appendix B (continued)

suggests trying to take a short break every 90 to 120 minutes to maximize attention and focus.

Managing Emotional Energy. Emotional energy is about having excitement and enthusiasm for what you do each day. We recommend two practices to sustain and restore emotional energy.

Be positive. Positive emotions have been shown to broaden thinking and build key psychological, social, and intellectual resources (Fredrickson, 2001). They can “undo” negative emotions and be the building blocks of resilience (Fredrickson, Tugade, Waugh, & Larkin, 2003). People who report more positive emotions live longer and healthier lives (Danner, Snowdon, & Friesen, 2001). Both smiling and laughter have been found to boost your mood (Neuhoff, & Schaefer, 2002).

Help someone/do a random act of kindness. Research indicates that it is better to give than to receive (Brown, Nesse, Vinokur, & Smith, 2003). It has even been found to be contagious when others witness an act of kindness (Haidt, 2000). Possible interventions might include offering to assist a friend or coworker with a task, give authentic compliments, or treat the person behind you at a coffee shop to a drink.

Managing Spiritual Energy. Spiritual energy focuses on meaning and purpose in life. We recommend two practices: one focused on what you are grateful for and the other focused on what is meaningful in your life. These complement some of the spirituality resources offered by Neal (1997).

Reflect on gratitude. Research has shown that gratitude is associated with better life satisfaction, increased social support, and may help prevent stress and depression (Emmons, 2007). Experts suggest keeping a gratitude journal by writing down three things one is grateful for each day (Emmons & McCullough, 2003). The most enduring gratitude intervention involves writing a gratitude letter to someone who has made a difference in one’s life (Seligman, Steen, Park, & Peterson, 2005).

Reflect on what is meaningful to you. Research demonstrates that writing about life goals for 20 minutes a day can increase well-being and health (King, 2001). Similar effects have been found when writing about what is meaningful in one’s daily life—what is most positive in one’s life (Seligman, Steen, Park, & Peterson, 2005).

Appendix C

Recommendations for Background Reading

- Dement, W., & Vaughan, C. 2000. *The promise of sleep: A pioneer in sleep medicine explores the vital connection between health, happiness, and a good night's sleep.* New York, NY: Dell.
- Loehr, J., & Schwartz, T. (2003). *The power of full engagement: Managing energy, not time, is the key to high performance and renewal.* New York, NY: Free Press.
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Note

1. Unfortunately, about one in four employed Americans has no paid vacation and no paid holidays, so opportunities for recovery are limited (Ray & Schmitt, 2007).

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